COOPERATIVE INSTITUTE FOR ATMOSPHERIC SCIENCES AND TERRESTRIAL APPLICATIONS
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The Cooperative Institute for Atmospheric Sciences and Terrestrial Applications (CIASTA) at the Desert Research Center of the University of Nevada has facilitated, long-term, collaborative research on themes of mutual interest between the NOAA Air Resources Laboratory; the Office of Climate, Water, and Weather Services' Climate Services Division; and the National Climatic Data Center scientists and university scientists and students since CIASTA's inception in 1995. Ongoing activities associated with CIASTA researchers include programs at the University of Nevada-Reno (UNR), University of Nevada-Las Vegas (UNLV), and Nevada State College at Henderson. CIASTA serves as a focal point for the interaction between NOAA and the Intermountain West (i.e., Rocky Mountains to the Sierra Nevada/Cascade Mountains) research community for research activities related to NOAA's tasks and responsibilities in that region.

Research focuses on four themes: (1) **Weather research** – Improve the WSR-88D Quantitative Precipitation Estimates (QPF) in the Intermountain West; (2) **Climate Research and Services** – Perform applied research to address climate questions of importance to U.S. citizens and to improve the reliability and quality of climatic data and information throughout all fifty states and U.S. territories; (3) **Air Quality Research –** Enhance our understanding of the long-range, transboundary transport of visibility-reducing particles from regional sources in the U.S. and Mexico and to quantify the contributions of specific U.S. and Mexican sources responsible for poor air quality at Big Bend National Park; and (4) **Terrestrial Ecosystems and Climate -** Evaluate the atmospheric, soil, and plant community parameters that influence surface water balance and the relationship to waste disposal.

Past research has led to improvements in short-term forecasts and warnings related to summer convection (i.e., flash floods) and winter storms (i.e., heavy snowfall, floods) in the Intermountain West. Research has also been conducted to develop quantitative indicators of climatological and meteorological factors pertinent to air quality. This includes the investigation of the relationship of such indicators to larger scale patterns of climate variability. Also, CIASTA studies sustainable partnerships between scientists and decision-makers, such as, the Big Bend Regional Aerosol and Visibility Observational (BRAVO) study.

CIASTA's research activities assist NOAA in one of its Mission Goals: (1) Serve society's needs for weather and water information.